

H.R. 250, AS AMENDED
BY THE SUBCOMMITTEE ON ENVIRONMENT, TECH-
NOLOGY, AND STANDARDS ON MARCH 15, 2005

Strike all after the enacting clause and insert the following:

1 SECTION 1. SHORT TITLE.

2 This Act may be cited as the “Manufacturing Tech-
3 nology Competitiveness Act of 2005”.

4 SEC. 2. INTERAGENCY COMMITTEE AND ADVISORY COM-
5 MITTEE.

6 (a) INTERAGENCY COMMITTEE.—

7 (1) ESTABLISHMENT.—The President shall es-
8 tablish or designate an interagency committee on
9 manufacturing research and development, which
10 shall include representatives from the Office of
11 Science and Technology Policy, the National Insti-
12 tute of Standards and Technology, the Science and
13 Technology Directorate of the Department of Home-
14 land Security, the National Science Foundation, the
15 Department of Energy, and any other agency that
16 the President may designate. The Chair of the Inter-
17 agency Committee shall be designated by the Sec-
18 retary of Commerce.



1 (2) FUNCTIONS.—The Interagency Committee
2 shall be responsible for the planning and coordina-
3 tion of Federal efforts in manufacturing research
4 and development through—

5 (A) establishing goals and priorities for
6 manufacturing research and development, in-
7 cluding the strengthening of United States
8 manufacturing through the support and coordi-
9 nation of Federal manufacturing research, de-
10 velopment, technology transfer, standards, and
11 technical training;

12 (B) developing, within 6 months after the
13 date of enactment of this Act, and updating
14 every 3 years for delivery with the President's
15 annual budget request to Congress, a strategic
16 plan, to be transmitted to the Committee on
17 Science of the House of Representatives and
18 the Committee on Commerce, Science, and
19 Transportation of the Senate, for manufac-
20 turing research and development that includes
21 an analysis of the research, development, tech-
22 nology transfer, standards, technical training,
23 and integration needs of the manufacturing sec-
24 tor important to ensuring and maintaining
25 United States competitiveness;



1 (C) proposing an annual coordinated inter-
2 agency budget for manufacturing research and
3 development to the Office of Management and
4 Budget; and

5 (D) developing and transmitting to Con-
6 gress an annual report on the Federal programs
7 involved in manufacturing research, develop-
8 ment, technical training, standards, and inte-
9 gration, their funding levels, and their impacts
10 on United States manufacturing competitive-
11 ness, including the identification and analysis of
12 the manufacturing research and development
13 problems that require additional attention, and
14 recommendations of how Federal programs
15 should address those problems.

16 (3) RECOMMENDATIONS AND VIEWS.—In car-
17 rying out its functions under paragraph (2), the
18 Interagency Committee shall consider the rec-
19 ommendations of the Advisory Committee and the
20 views of academic, State, industry, and other entities
21 involved in manufacturing research and develop-
22 ment.

23 (b) ADVISORY COMMITTEE.—

24 (1) ESTABLISHMENT.—Not later than 6
25 months after the date of enactment of this Act, the



1 President shall establish or designate an advisory
2 committee to provide advice and information to the
3 Interagency Committee.

4 (2) RECOMMENDATIONS.—The Advisory Com-
5 mittee shall assist the Interagency Committee by
6 providing it with recommendations on—

7 (A) the goals and priorities for manufac-
8 turing research and development;

9 (B) the strategic plan, including proposals
10 on how to strengthen research and development
11 to help manufacturing; and

12 (C) other issues it considers appropriate.

13 (3) REPORT.—The Advisory Committee shall
14 provide an annual report to the Interagency Com-
15 mittee and the Congress that shall assess—

16 (A) the progress made in implementing the
17 strategic plan and challenges to this progress;

18 (B) the effectiveness of activities under the
19 strategic plan in improving United States man-
20 ufacturing competitiveness;

21 (C) the need to revise the goals and prior-
22 ities established by the Interagency Committee;
23 and

24 (D) new and emerging problems and op-
25 portunities affecting the manufacturing re-



1 search community, research infrastructure, and
2 the measurement and statistical analysis of
3 manufacturing that may need to be considered
4 by the Interagency Committee.

5 (4) FEDERAL ADVISORY COMMITTEE ACT AP-
6 PPLICATION.—Section 14 of the Federal Advisory
7 Committee Act shall not apply to the Advisory Com-
8 mittee.

9 **SEC. 3. COLLABORATIVE MANUFACTURING RESEARCH**
10 **PILOT GRANTS.**

11 The National Institute of Standards and Technology
12 Act is amended—

13 (1) by redesignating the first section 32 as sec-
14 tion 34 and moving it to the end of the Act; and

15 (2) by inserting before the section moved by
16 paragraph (1) the following new section:

17 **“SEC. 33. COLLABORATIVE MANUFACTURING RESEARCH**
18 **PILOT GRANTS.**

19 **“(a) AUTHORITY.—**

20 **“(1) ESTABLISHMENT.—**The Director shall es-
21 tablish a pilot program of awards to partnerships
22 among participants described in paragraph (2) for
23 the purposes described in paragraph (3). Awards
24 shall be made on a peer-reviewed, competitive basis.



1 “(2) PARTICIPANTS.—Such partnerships shall
2 include at least—

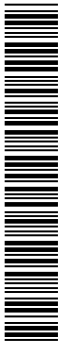
3 “(A) 1 manufacturing industry partner;
4 and

5 “(B) 1 nonindustry partner.

6 “(3) PURPOSE.—The purpose of the program
7 under this section is to foster cost-shared collabora-
8 tions among firms, educational institutions, research
9 institutions, State agencies, and nonprofit organiza-
10 tions to encourage the development of innovative,
11 multidisciplinary manufacturing technologies. Part-
12 nerships receiving awards under this section shall
13 conduct applied research to develop new manufac-
14 turing processes, techniques, or materials that would
15 contribute to improved performance, productivity,
16 and competitiveness of United States manufacturing,
17 and build lasting alliances among collaborators.

18 “(b) PROGRAM CONTRIBUTION.—Awards under this
19 section shall provide for not more than one-third of the
20 costs of a partnership. Not more than an additional one-
21 third of such costs may be obtained directly or indirectly
22 from other Federal sources.

23 “(c) APPLICATIONS.—Applications for awards under
24 this section shall be submitted in such manner, at such
25 time, and containing such information as the Director



1 shall require. Such applications shall describe at a
2 minimum—

3 “(1) how each partner will participate in devel-
4 oping and carrying out the research agenda of the
5 partnership;

6 “(2) the research that the grant would fund;
7 and

8 “(3) how the research to be funded with the
9 award would contribute to improved performance,
10 productivity, and competitiveness of the United
11 States manufacturing industry.

12 “(d) SELECTION CRITERIA.—In selecting applica-
13 tions for awards under this section, the Director shall con-
14 sider at a minimum—

15 “(1) the degree to which projects will have a
16 broad impact on manufacturing;

17 “(2) the novelty and scientific and technical
18 merit of the proposed projects; and

19 “(3) the demonstrated capabilities of the appli-
20 cants to successfully carry out the proposed re-
21 search.

22 “(e) DISTRIBUTION.—In selecting applications under
23 this section the Director shall ensure, to the extent prac-
24 ticable, a distribution of overall awards among a variety



1 of manufacturing industry sectors and a range of firm
2 sizes.

3 “(f) DURATION.—In carrying out this section, the Di-
4 rector shall run a single pilot competition to solicit and
5 make awards. Each award shall be for a 3-year period.”.

6 **SEC. 4. MANUFACTURING FELLOWSHIP PROGRAM.**

7 Section 18 of the National Institute of Standards and
8 Technology Act (15 U.S.C. 278g–1) is amended—

9 (1) by inserting “(a) IN GENERAL.—” before
10 “The Director is authorized”; and

11 (2) by adding at the end the following new sub-
12 section:

13 “(b) MANUFACTURING FELLOWSHIP PROGRAM.—

14 “(1) ESTABLISHMENT.—To promote the devel-
15 opment of a robust research community working at
16 the leading edge of manufacturing sciences, the Di-
17 rector shall establish a program to award—

18 “(A) postdoctoral research fellowships at
19 the Institute for research activities related to
20 manufacturing sciences; and

21 “(B) senior research fellowships to estab-
22 lished researchers in industry or at institutions
23 of higher education who wish to pursue studies
24 related to the manufacturing sciences at the In-
25 stitute.



1 “(2) APPLICATIONS.—To be eligible for an
2 award under this subsection, an individual shall sub-
3 mit an application to the Director at such time, in
4 such manner, and containing such information as
5 the Director may require.

6 “(3) STIPEND LEVELS.—Under this section, the
7 Director shall provide stipends for postdoctoral re-
8 search fellowships at a level consistent with the Na-
9 tional Institute of Standards and Technology
10 Postdoctoral Research Fellowship Program, and sen-
11 ior research fellowships at levels consistent with sup-
12 port for a faculty member in a sabbatical position.”.

13 **SEC. 5. MANUFACTURING EXTENSION.**

14 (a) MANUFACTURING CENTER EVALUATION.—Sec-
15 tion 25(c)(5) of the National Institute of Standards and
16 Technology Act (15 U.S.C. 278k(c)(5)) is amended by in-
17 serting “A Center that has not received a positive evalua-
18 tion by the evaluation panel shall be notified by the panel
19 of the deficiencies in its performance and may be placed
20 on probation for one year, after which time the panel may
21 reevaluate the Center. If the Center has not addressed the
22 deficiencies identified by the panel, or shown a significant
23 improvement in its performance, the Director may conduct
24 a new competition to select an operator for the Center or



1 may close the Center.” after “sixth year at declining lev-
2 els.”.

3 (b) FEDERAL SHARE.—Strike Section 25(d) of the
4 National Institute of Standards Act (15 U.S.C. 278k(d))
5 and insert the following:

6 “(d) ACCEPTANCE OF FUNDS.—In addition to such
7 sums as may be appropriated to the Secretary and Direc-
8 tor to operate the Centers program, the Secretary and Di-
9 rector also may accept funds from other Federal depart-
10 ments and agencies and under section 2(c)(7) from the
11 private sector for the purpose of strengthening United
12 States manufacturing. Such funds, if allocated to a Center
13 or Centers, shall not be considered in the calculation of
14 the Federal share of capital and annual operating and
15 maintenance costs under subsection (c).”.

16 (c) MANUFACTURING EXTENSION CENTER COMPETI-
17 TIVE GRANT PROGRAM.—Section 25 of the National Insti-
18 tute of Standards and Technology Act (15 U.S.C. 278k)
19 is amended by adding at the end the following new sub-
20 sections:

21 “(e) COMPETITIVE GRANT PROGRAM.—

22 “(1) ESTABLISHMENT.—The Director shall es-
23 tablish, within the Manufacturing Extension Part-
24 nership program under this section and section 26
25 of this Act, a program of competitive awards among



1 participants described in paragraph (2) for the pur-
2 poses described in paragraph (3).

3 “(2) PARTICIPANTS.—Participants receiving
4 awards under this subsection shall be the Centers, or
5 a consortium of such Centers.

6 “(3) PURPOSE.—The purpose of the program
7 under this subsection is to develop projects to solve
8 new or emerging manufacturing problems as deter-
9 mined by the Director, in consultation with the Di-
10 rector of the Manufacturing Extension Partnership
11 program, the Manufacturing Extension Partnership
12 National Advisory Board, and small and medium-
13 sized manufacturers. One or more themes for the
14 competition may be identified, which may vary from
15 year to year, depending on the needs of manufactur-
16 ers and the success of previous competitions. These
17 themes shall be related to projects associated with
18 manufacturing extension activities, including supply
19 chain integration and quality management, or extend
20 beyond these traditional areas.

21 “(4) APPLICATIONS.—Applications for awards
22 under this subsection shall be submitted in such
23 manner, at such time, and containing such informa-
24 tion as the Director shall require, in consultation



1 with the Manufacturing Extension Partnership Na-
2 tional Advisory Board.

3 “(5) SELECTION.—Awards under this sub-
4 section shall be peer reviewed and competitively
5 awarded. The Director shall select proposals to re-
6 ceive awards—

7 “(A) that utilize innovative or collaborative
8 approaches to solving the problem described in
9 the competition;

10 “(B) that will improve the competitiveness
11 of industries in the region in which the Center
12 or Centers are located; and

13 “(C) that will contribute to the long-term
14 economic stability of that region.

15 “(6) PROGRAM CONTRIBUTION.—Recipients of
16 awards under this subsection shall not be required
17 to provide a matching contribution.

18 “(f) AUDITS.—A center that receives assistance
19 under this section shall submit annual audits to the Sec-
20 retary in accordance with Office of Management and
21 Budget Circular A-133 and shall make such audits avail-
22 able to the public on request.”.



1 **SEC. 6. SCIENTIFIC AND TECHNICAL RESEARCH AND SERV-**
2 **ICES.**

3 (a) LABORATORY ACTIVITIES.—There are authorized
4 to be appropriated to the Secretary of Commerce for the
5 scientific and technical research and services laboratory
6 activities of the National Institute of Standards and
7 Technology—

8 (1) \$426,267,000 for fiscal year 2006, of
9 which—

10 (A) \$50,833,000 shall be for Electronics
11 and Electrical Engineering;

12 (B) \$28,023,000 shall be for Manufac-
13 turing Engineering;

14 (C) \$52,433,000 shall be for Chemical
15 Science and Technology;

16 (D) \$46,706,000 shall be for Physics;

17 (E) \$33,500,000 shall be for Material
18 Science and Engineering;

19 (F) \$24,321,000 shall be for Building and
20 Fire Research;

21 (G) \$68,423,000 shall be for Computer
22 Science and Applied Mathematics;

23 (H) \$20,134,000 shall be for Technical As-
24 sistance;

25 (I) \$48,326,000 shall be for Research Sup-
26 port Activities;



1 (J) \$29,369,000 shall be for the National
2 Institute of Standards and Technology Center
3 for Neutron Research; and

4 (K) \$18,543,000 shall be for the National
5 Nanomanufacturing and Nanometrology Facil-
6 ity;

7 (2) \$447,580,000 for fiscal year 2007; and

8 (3) \$456,979,000 for fiscal year 2008.

9 (b) MALCOLM BALDRIGE NATIONAL QUALITY
10 AWARD PROGRAM.—There are authorized to be appro-
11 priated to the Secretary of Commerce for the Malcolm
12 Baldrige National Quality Award program under section
13 17 of the Stevenson-Wydler Technology Innovation Act of
14 1980 (15 U.S.C. 3711a)—

15 (1) \$5,654,000 for fiscal year 2006;

16 (2) \$5,795,000 for fiscal year 2007; and

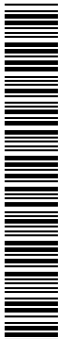
17 (3) \$5,939,000 for fiscal year 2008.

18 (c) CONSTRUCTION AND MAINTENANCE.—There are
19 authorized to be appropriated to the Secretary of Com-
20 merce for construction and maintenance of facilities of the
21 National Institute of Standards and Technology—

22 (1) \$58,898,000 for fiscal year 2006;

23 (2) \$61,843,000 for fiscal year 2007; and

24 (3) \$63,389,000 for fiscal year 2008.



1 (d) ADVANCED TECHNOLOGY PROGRAM ELIMI-
2 NATION REPORT.—Not later than 3 months after the date
3 of enactment of this Act, the Secretary shall provide to
4 the Congress a report detailing the impacts of the possible
5 elimination of the Advanced Technology Program on the
6 laboratory programs at the National Institute of Stand-
7 ards Technology.

8 (e) LOSS OF FUNDING.—At the time of the Presi-
9 dent's budget request for fiscal year 2007, the Secretary
10 shall provide the Congress a report on how the Depart-
11 ment of Commerce plans to absorb the loss of Advanced
12 Technology Program funds to the laboratory programs at
13 the National Institute of Standards and Technology, or
14 otherwise mitigate the effects of this loss on its programs
15 and personnel.

16 **SEC. 7. STANDARDS EDUCATION PROGRAM.**

17 (a) PROGRAM AUTHORIZED.—(1) As part of the
18 Teacher Science and Technology Enhancement Institute
19 Program, the Director of the National Institute of Stand-
20 ards and Technology shall carry out a Standards Edu-
21 cation program to award grants to institutions of higher
22 education to support efforts by such institutions to develop
23 curricula on the role of standards in the fields of engineer-
24 ing, business, science, and economics. The curricula
25 should address topics such as—

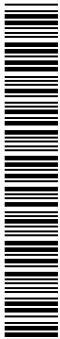


- 1 (A) development of technical standards;
- 2 (B) demonstrating conformity to standards;
- 3 (C) intellectual property and antitrust issues;
- 4 (D) standardization as a key element of busi-
- 5 ness strategy;
- 6 (E) survey of organizations that develop stand-
- 7 ards;
- 8 (F) the standards life cycle;
- 9 (G) case studies in effective standardization;
- 10 (H) managing standardization activities; and
- 11 (I) managing organizations that develop stand-
- 12 ards.

13 (2) Grants shall be awarded under this section on a
14 competitive, merit-reviewed basis and shall require cost-
15 sharing from non-Federal sources.

16 (b) SELECTION PROCESS.—(1) An institution of
17 higher education seeking funding under this section shall
18 submit an application to the Director at such time, in such
19 manner, and containing such information as the Director
20 may require. The application shall include at a
21 minimum—

- 22 (A) a description of the content and schedule
- 23 for adoption of the proposed curricula in the courses
- 24 of study offered by the applicant; and



1 (B) a description of the source and amount of
2 cost-sharing to be provided.

3 (2) In evaluating the applications submitted under
4 paragraph (1) the Director shall consider, at a
5 minimum—

6 (A) the level of commitment demonstrated by
7 the applicant in carrying out and sustaining lasting
8 curricula changes in accordance with subsection
9 (a)(1); and

10 (B) the amount of cost-sharing provided.

11 (c) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated to the Secretary of Com-
13 merce for the Teacher Science and Technology Enhance-
14 ment Institute program of the National Institute of Stand-
15 ards and Technology—

16 (1) \$773,000 for fiscal year 2006;

17 (2) \$796,000 for fiscal year 2007; and

18 (3) \$820,000 for fiscal year 2008.

19 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

20 (a) MANUFACTURING EXTENSION PARTNERSHIP
21 PROGRAM.—There are authorized to be appropriated to
22 the Secretary of Commerce, or other appropriate Federal
23 agencies, for the Manufacturing Extension Partnership
24 program under sections 25 and 26 of the National Insti-



1 tute of Standards and Technology Act (15 U.S.C. 278k
2 and 278l)—

3 (1) \$110,000,000 for fiscal year 2006, of which
4 not more than \$4,000,000 shall be for the competi-
5 tive grant program under section 25(e) of such Act
6 (15 U.S.C. 278k(e));

7 (2) \$115,000,000 for fiscal year 2007, of which
8 not more than \$4,100,000 shall be for the competi-
9 tive grant program under section 25(e) of such Act
10 (15 U.S.C. 278k(e)); and

11 (3) \$120,000,000 for fiscal year 2008, of which
12 not more than \$4,200,000 shall be for the competi-
13 tive grant program under section 25(e) of such Act
14 (15 U.S.C. 278k(e)).

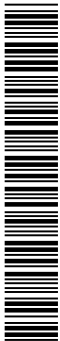
15 (b) COLLABORATIVE MANUFACTURING RESEARCH
16 PILOT GRANTS PROGRAM.—There are authorized to be
17 appropriated to the Secretary of Commerce for the Col-
18 laborative Manufacturing Research Pilot Grants program
19 under section 33 of the National Institute of Standards
20 and Technology Act—

21 (1) \$10,000,000 for fiscal year 2006;

22 (2) \$10,000,000 for fiscal year 2007; and

23 (3) \$10,000,000 for fiscal year 2008.

24 (c) FELLOWSHIPS.—There are authorized to be ap-
25 propriated to the Secretary of Commerce for Manufac-



1 turing Fellowships at the National Institute of Standards
2 and Technology under section 18(b) of the National Insti-
3 tute of Standards and Technology Act, as added by section
4 4 of this Act—

- 5 (1) \$1,500,000 for fiscal year 2006;
6 (2) \$1,750,000 for fiscal year 2007; and
7 (3) \$2,000,000 for fiscal year 2008.

